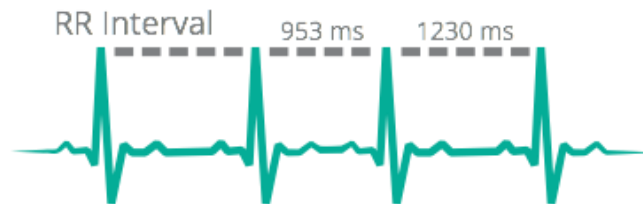


Heart Rate Variability

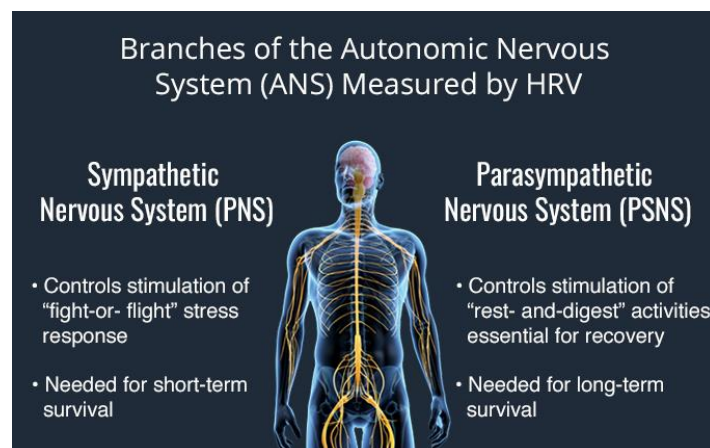
Heart Rate Variability (HRV) is an accurate, non-invasive measure of the Autonomic Nervous System (ANS) which responds to everything: how you exercise, recover, eat, sleep and perceive stress.

Unlike basic heart rate (HR) that counts the number of heart beats per minute, HRV looks much closer at the exact changes in **time between successive heartbeats** (also called inter-beat intervals, RR intervals, NN intervals, etc).



RR Intervals (also called Interbeat Intervals - IBIs)

Now that you can accurately and conveniently track your nervous system, you can make better health, training, and recovery decisions to reach your goals.



Your sympathetic nervous system (SNS) is needed for when you train, without it you wouldn't be able to run very fast. It stimulates blood glucose (to fuel your muscles), pupil dilation (to focus), slows digestion (to focus energy on where it needs to go) and increases heart rate (to ensure adequate blood circulation to run fast).

The parasympathetic nervous system (PSNS) is needed for when you want to rest and recover. This is when your body adapts to the training stimulus and you become stronger and faster.

The SNS and PSNS control the same organs with opposite effects. Both branches are always working, both are needed to maintain homeostasis in your body. With every single heartbeat, your nervous system is saying "slow down – speed up" based on feedback from all your senses, emotions, etc. A healthy nervous system has a balanced but strong push and pull between the sympathetic and parasympathetic branches.

Effect on Training

You can take HRV scores through a heart rate monitor and an app on your phone, Elite HRV is one of the better ones. Higher resting-state HRV scores signify the ability of the body to activate the Parasympathetic response. Higher heart rate variability is correlated with increased performance and better health. You can take a reading once or twice a day and you can then start to look at training differently. If you wake up and your HRV is a lot lower than normal (you need multiple readings before you can read into it) and you have 10 x 1k planned, you may need to rethink your training. If your body is run down and tired, even if you get through the session it will not have the desired training adaptation that we would like.

We all know that following a 7-day training cycle is not the best because it is impossible for your body to feel amazing every Saturday when we have a hard session planned. Using HRV we may be able to adapt training on how your body is feeling rather than guessing. This works both ways, you run easier when you need to so that your HRV score can increase and when your HRV score is very high, you can train harder if needed.

Ways to Improve Your HRV Score

1. Sleep – more quality sleep will increase your HRV score.
2. Training – adapt training for when you have a low reading.
3. No alcohol – there are no performance benefits from drinking alcohol.
4. Diet – eating a well-balanced diet with lots of carbs, protein, good fats and lots of water.
5. Reduce stress – easier said than done but don't worry about things that you cannot control.
6. Breathing exercises – after training or other stressful situations, lay down and take 10 very deep breathes, in through the nose and out through the mouth. This has been shown to jump start your PSNS.

How to Take HRV

1. Download the Elite HRV app
2. Put on a heart rate monitor
3. Press start and lie down for 2-3 minutes

Note: I am currently talking to a company to give me a discount on their reading sensor and I will get back to you on this when I hear back from them.